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09/902,345	07/10/2001	Paul W. Jones	82991THC	8881

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EXAMINER

KIM, JUNG W

ART UNIT PAPER NUMBER

2132

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,345

Applicant(s)

JONES, PAUL W.

Examiner

Jung W. Kim

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-86 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the amendment filed on August 1, 2005.
2. Claims 41-86 are pending.
3. Claims 1-40 are canceled.
4. Claims 41-86 are new.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

6. Replacement drawings were received on August 1, 2005. These drawings have been entered.

Claim Objections

7. Claim 73 is objected to because of the following informalities: In claim 73, line 6, replace "an acquiring watermark root message" with --an acquiring watermark root message system--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 61, 70, 77 and 84 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The subject matter of claims 61, 70, 77 and 84 is not enabled by the Specification; means for adding a suffix or prefix to the partial *key* is disclosed, not means for adding a suffix or prefix to the partial *message* (Specification, pg. 14, lines 9-11).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. Claims 41-43, 46, 48-50 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Vynne et al. USPN 5,960,081 (hereinafter Vynne).

12. As per claim 41, Vynne discloses a system for securely embedding watermark information in one or more frames of a digital image sequence, comprising:

a. a secure environment (fig. 2.2, reference no. 214);

- b. an acquiring system for acquiring a secure watermark root key from a secure source (fig. 2.2, reference no. 219 and fig. 6.1, reference no. 615);
- c. a watermark generator for generating a watermark key from the watermark root key within the secure environment, wherein the watermark key is not identical to the watermark root key (fig. 6.1, reference no. 616);
- d. watermark message generator for generating a watermark message within the secure environment (fig. 2.2, reference no. 217);
- e. watermark pattern generator for generating a watermark pattern using the watermark key and watermark message within the secure environment ; and combining system for combining the watermark pattern with one or more frames of the digital image sequence within the secure environment (fig. 6.1, reference no. 618).

13. As per claim 42, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) In addition, the watermark key generator includes means for updating the watermark key throughout the digital image sequence (the random number generator supplies a constant updating key value).

14. As per claim 43, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) In addition, the watermark message generator includes means for updating the watermark message throughout the digital image sequence (this is an inherent feature where the digital image sequence is one frame).

15. As per claim 46, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) In addition, the watermark root key is an initialization key and means for generating the watermark key includes means for modifying the initialization key (fig. 6.1, reference no. 615).

16. As per claims 48-50 and 53, they are claims corresponding to claims 41-43 and 46, and they do not teach or define above the information claimed in claims 41-43 and 46. Therefore, claims 48-50 and 53 are rejected as being anticipated by Vynne for the same reasons set forth in the rejections of claims 41-43 and 46.

17. Claims 55-57, 59, 60, 64-66, 68, 69, 73, 74, 76, 80, 81 and 83 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhao et al. USPN 6,141,753 (hereinafter Zhao)

18. As per claim 55, Zhao discloses a system for securely embedding watermark information in one or more frames of a digital image sequence, comprising:

- f. a secure environment (fig. 1, reference nos. 103, 105, 130);
- g. means for generating a watermark key within the secure environment (fig. 1, reference no. 113);
- h. an acquiring system for acquiring a secure watermark root message from a secure source (fig. 1, reference no. 105);

- i. a watermark generator for generating a watermark message from the watermark root message within the secure environment, wherein the watermark message is not identical to the watermark root message (fig. 1, reference no. 109 and 123; col. 6:26);
- j. a watermark pattern generator for generating a watermark pattern using the watermark key and watermark message within the secure environment; and a combining system for combining the watermark pattern with one or more frames of the digital image sequence within the secure environment (fig. 1, reference no. 109 and 123; 11:2-15).

19. As per claim 56, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (supra) In addition, the watermark key generator includes means for updating the watermark key throughout the digital image sequence (col. 11:2-23; the random number generator supplies a constant updating key value).

20. As per claim 57, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (supra) In addition, the watermark message generator includes means for updating the watermark message throughout the digital image sequence (col. 9:49-60).

21. As per claim 59, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (supra) In addition, the system further includes a sending system for securely

Art Unit: 2132

sending the watermark key to a remote database (col. 4:32-34; 9:6-13; fig. 1, reference nos. 113 and 127).

22. As per claim 60, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (supra) In addition, the system further includes a sending system for securely sending the watermark message to a remote database (col. 6:4-6 and 7:8-11; fig. 1, reference no. 105).

23. As per claims 64-66, 68 and 69, they are claims corresponding to claims 55-57, 59 and 60, and they do not teach or define above the information claimed in claims 55-57, 59 and 60. Therefore, claims 64-66, 68 and 69 are rejected as being anticipated by Zhao for the same reasons set forth in the rejections of claims 55-57, 59 and 60.

24. As per claims 73, 74 and 76, the rejections of claims 55, 57 and 60 are incorporated herein. In addition, the system further includes an acquiring watermark key system for acquiring a secure watermark key from a secure source. The aforementioned cover the limitations of claims 73, 74 and 76.

25. As per claims 80, 81 and 83, they are claims corresponding to claims 73, 74 and 76, and they do not teach or define above the information claimed in claims 73, 74 and 76. Therefore, claims 80, 81 and 83 are rejected as being anticipated by Zhao for the same reasons set forth in the rejections of claims 73, 74 and 76.

Claim Rejections - 35 USC § 103

26. Claims 47 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne.

27. As per claim 47, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) Vynne does not disclose the watermark root key is a partial key and means for generating the watermark key including means for adding a suffix or prefix to the partial key. However, the technique of padding a value to generate another value that is consistent with a required size is a notoriously well known means of adapting a value to a standard size. This technique is found in a broad range of arts including: key value generation (padding a seed value to generate a key), data transmission (padding data values to fill a packet payload) and logic processing (padding values used in computation logic devices, such as ALUs). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made for the watermark root key to be a partial key and to provide means for generating the watermark key by adding a suffix or prefix to the partial key, since it is desirous to pad values so that a variety of different length values can be incorporated into a standard size as known to one ordinary skill in the art. The aforementioned cover the limitations of claim 47.

28. As per claim 54, it is a claim corresponding to claim 47, and it does not teach or define above the information claimed in claim 47. Therefore, claim 54 is rejected as

being unpatentable over Vynne for the same reasons set forth in the rejection of claim 47.

29. Claims 44, 45, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne in view of Zhao.

30. As per claim 44, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) Vynne does not expressly disclose securely sending the watermark key to a remote database. However, secure submission of watermark key values to a secure database are essential features to ensure privacy and integrity, as well as ensuring the ability to verify the watermark. For example, Zhao discloses a secure storage to store keys that are used to generate a watermark; the watermark key is stored to verify the validity of a watermarked original representation (col. 4:32-34; 9:6-13). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made to securely send the watermark key to a remote database, since it protects the watermark key from being compromised (Zhao, *ibid*). The aforementioned cover the limitations of claim 44.

31. As per claim 45, the rejection of claim 41 under 35 U.S.C. 102(b) is incorporated herein. (supra) Vynne does not expressly disclose securely sending the watermark message to a remote database. However, secure submission of watermark messages to a secure database is an essential feature to ensure integrity of these messages, as

Art Unit: 2132

well as verify the content of a watermark. For example, Zhao discloses a secure storage to store message values used to generate a watermark; the watermark message is stored to verify information in a watermark (col. 6:4-6 and 7:8-11). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made to securely send the watermark message to a remote database, since it protects the watermark message from being compromised (Zhao, *ibid*). The aforementioned cover the limitations of claim 45.

32. As per claims 51 and 52, they are claims corresponding to claims 44 and 45, and they do not teach or define above the information claimed in claims 44 and 45.

Therefore, claims 51 and 52 are rejected as being unpatentable over Vynne in view of Zhao for the same reasons set forth in the rejections of claims 44 and 45.

33. Claim 61, 70, 77 and 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao.

34. As per claim 61, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (*supra*) Zhao does not disclose the watermark root message is a partial message and means for generating the watermark message including means for adding a suffix or prefix to the partial message. However, the technique of padding a value to generate another value that is consistent with a required size is a notoriously well known means of adapting a value to a standard size. This technique is found in a broad

Art Unit: 2132

range of arts including: key value generation (padding a seed value to generate a key), data transmission (padding data values to fill a packet payload) and logic processing (padding values used in computation logic devices, such as ALUs). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made for the watermark root message to be a partial message and to provide means for generating the watermark message by adding a suffix or prefix to the partial message, since it is desirous to pad values so that a variety of different length values can be incorporated into a standard size as known to one ordinary skill in the art. The aforementioned cover the limitations of claim 61.

35. As per claim 70, it is a claim corresponding to claim 61, and it does not teach or define above the information claimed in claim 61. Therefore, claim 70 is rejected as being unpatentable over Zhao for the same reasons set forth in the rejection of claim 61.

36. As per claim 77, it is a claim corresponding to claims 61 and 73, and it does not teach or define above the information claimed in claims 61 and 73. Therefore, claim 77 is rejected as being unpatentable over Zhao for the same reasons set forth in the rejections of claims 61 and 73.

37. As per claim 84, it is a claim corresponding to claim 77, and it does not teach or define above the information claimed in claim 77. Therefore, claim 84 is rejected as

being unpatentable over Zhao for the same reasons set forth in the rejection of claim 77.

38. Claims 58, 62, 63, 67, 71, 72, 75, 78, 79, 82, 85 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao in view of Stefik et al. USPN 6,233,684 (hereinafter Stefik).

39. As per claims 58, 62 and 63, the rejection of claim 55 under 35 U.S.C. 102(e) is incorporated herein. (supra) Zhao does not expressly teach the step of generating the watermark message including means for generating a validated time stamp, the watermark root message including a unique theater ID or a unique presentation ID. Stefik discloses generating watermark messages to watermark rendered digital works, wherein the step of generating a watermark message including generating the watermark message from watermark strings and tokens, wherein the watermark strings and tokens including a unique user-id, institution-location, render-location, render-name, and render-time (col. 5:19-25; 6:18-25; fig. 5, reference no. 501 and 508; fig. 10 and related text). Further, these root messages are acquired from a verified user or a trusted printer (12:65-67; 13:22-25). Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made for the generation of the watermark message to include generating a validated time stamp (render-time), the watermark root message including a unique theater ID (render-location) and a unique presentation ID (render-location, render-name, render-time) since it defines secure copyright restrictions

by specifying controls on the distribution and use of digital works (Stefik, 3:5-39). The aforementioned cover the limitations of claims 58, 62 and 63.

40. As per claims 67, 71 and 72, they are claims corresponding to claims 58, 62 and 63, and they do not teach or define above the information claimed in claims 58, 62 and 63. Therefore, claims 67, 71 and 72 are rejected as being unpatentable over Zhao in view of Stefik for the same reasons set forth in the rejections of claims 58, 62 and 63.

41. As per claims 75, 78 and 79, they are claims corresponding to claims 58, 62, 63 and 73, and they do not teach or define above the information claimed in claims 58, 62, 63 and 73. Therefore, claims 75, 78 and 79 are rejected as being unpatentable over Zhao in view of Stefik for the same reasons set forth in the rejections of claims 58, 62, 63 and 73.

42. As per claims 82, 85 and 86, they are claims corresponding to claims 75, 78 and 79, and they do not teach or define above the information claimed in claims 75, 78 and 79. Therefore, claims 82, 85 and 86 are rejected as being unpatentable over Zhao in view of Stefik for the same reasons set forth in the rejections of claims 75, 78 and 79.

Conclusion

43. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communications Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W. Kim whose telephone number is 571-272-3804. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

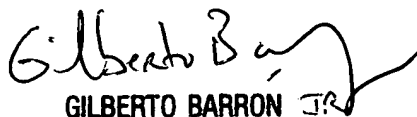
Art Unit: 2132

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September 9, 2005

Jung W Kim
Examiner
Art Unit 2132



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